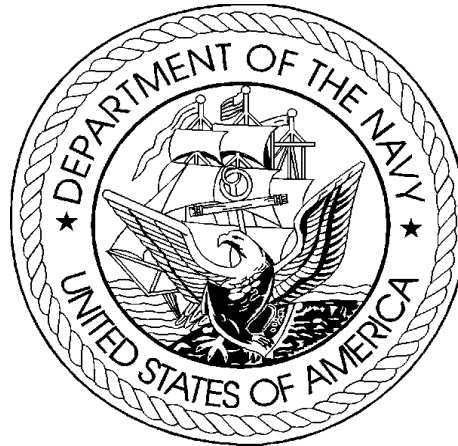


DEPARTMENT OF THE NAVY
FY 1999 BUDGET ESTIMATE SUBMISSION



JUSTIFICATION OF ESTIMATES
SEPTEMBER 1997

WEAPONS PROCUREMENT, NAVY
BUDGET ACTIVITY 3

UNCLASSIFIED

Department of the Navy

FY 1999 Procurement Program

Exhibit P-1

APPROPRIATION: 1507N Weapons Procurement, Navy

DATE: 10/03/97

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 1999 UNIT COST	TOA, \$ IN MILLIONS						S E C
				-----FY 1997-----		-----FY 1998-----		-----FY 1999-----		
				QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	
BUDGET ACTIVITY 03: Torpedoes and Related Equipment										

Torpedoes And Related Equipment										
22	3141 ASW Targets	A			4.9		.7		4.3	U
23	3145 Vertical Launched ASROC (VLA)	A		16	12.7		-		-	U
Mod Of Torpedoes And Related Equip										
24	3215 MK-46 Torpedo Mods	A			1.5		.3		-	U
25	3225 MK-48 Torpedo ADCAP Mods	A			52.6		55.4		54.0	U
Support Equipment										
26	3301 Torpedo Support Equipment	A			21.5		25.5		25.0	U
27	3302 ASW Range Support	A			14.5		11.8		15.0	U
Destination Transportation										
28	2410 First Destination Transportation	A			2.6		2.0		2.0	U
TOTAL Torpedoes and Related Equipment					110.3		95.7		100.3	

CLASSIFICATION: Unclassified

WEAPONS PROCUREMENT, NAVY BUDGET ITEM JUSTIFICATION SHEET (EXHIBIT P-40)							DATE: September 1997	
BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment				P-1 ITEM NOMENCLATURE: ASW Targets			LI # 314100 C3TG	
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Quantity								
Cost (In Millions)	0.6	4.9	0.7	4.3	3.8	5.0	17.0	16.8
ITEM DESCRIPTION/JUSTIFICATION <p>This line item funds three distinct systems: (a) MK39 Mod 0 EMATT (Cost Codes TG001, TG830, TG840, TG850, TG860 and TG900); (b) MK 39 Mod 1 (Cost Codes TG002, TG832, TG842, TG852, TG862, and TG902) ; (c) MK 30 Mod 2 (Cost Codes TG005, TG015, TG835, TG865, and TG905).</p> <p>The MK 39 Mod 0 Expendable Mobile ASW Training Target (EMATT) is a small, self-propelled underwater vehicle launchable from fixed wing and rotary wing ASW aircraft, and ASW surface ships for the purpose of providing basic, open ocean sonar training and MK46 placement exercises. MK39 Mod 0 operation consists of a three hour dynamic run trajectory that is actively controlled in depth and course with pre-programmable run maneuvers. MK 39 Mod 0 is detectable and trackable by: passive towed arrays SQR-18 and SQR-19, and passive sonobouys SSQ-41 and SSQ-53; active sonars, SQS-23, 26, 35, 53, 56, SQQ-23 and AQS-13 and active sonobouys SSQ-50 and SSQ-62; and the MK46 torpedo operating in the active mode. The MK 39 Mod 0 EMATT is also capable of generating a magnetic field (anomaly) detectable by all current Navy Magnetic Anomaly Detectors (MAD). The FY1994 Defense Authorization Conference directed the Navy to provide Congressional Defense Committees a plan on how the current ASW target programs could be expanded to include supporting MK48 and MK50 torpedoes and shallow water ASW training operations. ASN(RDA) submitted the ASW Target Plan on June 15, 1994 to the various Congressional defense committees; funding has been included in this WPN line item for the procurement of the MK 39 Mod 1, which will support these expanded requirements through the award of a competitive contract to be awarded in the 3rd QTR FY 97. The MK 30 Mod 2 is the next generation fleet ASW training target for training the Navy surface ship, submarines and aircraft that will be capable of simulating the Russian and Rest of the World (ROW) submarine threats anticipated in the twenty-first century littoral warfare environment. Replacing the aging MK 30 Mod 1 target, MK30 Mod 2 will be a highly reliable and maintainable unmanned undersea vehicle simulating the dynamics, acoustics and magnetic signatures of submarines and act as a target for ASW sensors and torpedoes to detect, classify, track and pursue in a REALISTIC training environment. WPN funding will commence FY 01.</p>								

DD Form 2454, Jul 88

P-1 SHOPPING LIST LINE ITEM NO.	PAGE NO.
22	1

CLASSIFICATION: Unclassified

CLASSIFICATION: Unclassified

APPROPRIATION: Weapons Procurement, Navy								WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)				DATE: September 1997	
---	--	--	--	--	--	--	--	---	--	--	--	-------------------------	--

BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment					P-1 ITEM NOMENCLATURE: ASW Targets					SUBHEAD: C3TG		
---	--	--	--	--	---------------------------------------	--	--	--	--	------------------	--	--

COST CODE	ELEMENT OF COST	I/C	FY 1996		FY 1997		FY 1998		FY 1999	
			QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
	MK39 Mod 0 - EMATT			\$639		\$0		\$0		\$0
	MK39 Mod 1 - EMATT*			\$0		\$4,947		\$685		\$4,250
	MK30 Mod 2			\$0		\$0		\$0		\$0
				\$639		\$4,947		\$685		\$4,250
*In FY-97, \$815K was returned to sponsor due to MK39 Mod 1 contract award savings. New control for FY-97 should be \$4.1M as reflected in latest STARS document.										

P-1 SHOPPING LIST LINE ITEM NO.	PAGE NO.
22	2

CLASSIFICATION: Unclassified

CLASSIFICATION: Unclassified

APPROPRIATION: Weapons Procurement, Navy								DATE: September 1997		
WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)										

BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment				P-1 ITEM NOMENCLATURE: ASW Targets - EMATT					SUBHEAD: C3TG	
---	--	--	--	---	--	--	--	--	------------------	--

COST CODE	ELEMENT OF COST	I/C	FY 1996		FY 1997		FY 1998		FY 1999	
			QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
TG002	MK39 Mod 1 - EMATT*			\$0	1,000	\$3,950	0	\$0	1,120	\$2,977
TG800	Production Engineering (MK39 Mod 0)			\$639		\$50		\$0		\$0
TG832	Production Engineering (In-house)			\$0		\$701		\$238		\$794
TG842	Quality Assurance			\$0		\$46		\$103		\$100
TG852	Product Improvement			\$0		\$91		\$77		\$80
TG862	Acceptance T & E			\$0		\$109		\$135		\$134
TG902	Production Engineering (Contractor)			\$0		\$0		\$132		\$165
				\$639		\$4,947		\$685		\$4,250
*In FY-97 a contract savings of \$1.3M was realized. This funding is to be reprogrammed to fund emergent shortfalls. FY 99-03 budgets have been adjusted to reflect contract savings.										

P-1 SHOPPING LIST LINE ITEM NO.	PAGE NO.
22	3

CLASSIFICATION: Unclassified

CLASSIFICATION: Unclassified

APPROPRIATION:										DATE: Weapons Procurement, Navy	
BA-3: Torpedo and Related Equipment					ASW Targets					BUDGET ACTIVITY: C3TG	
COST CODE	FISCAL YEAR ELEMENT OF COST	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST	SPECS AVAIL NOW WHEN	ARE SPEC REVISIONS REQUIRED?	IF YES, WHEN AVAILABLE
FY 1995											
TG001	MK39 Mod 0 - EMATT/ECPs	SECHAN Lititz, PA	C/FFP - Option	NAVSEA	Jul-95	Mar-98	1,525	\$3,900	Yes	No	
FY 1997											
TG002	MK39 Mod 1 - EMATT/ECPs	Sippican Marion, MA	C/FFP	NAVSEA	Jun-97	Sep-98	1,000	\$2,495	Yes	No	
FY 1999											
TG002	MK39 Mod 1 - EMATT/ECPs	Unknown	C/FFP-Option	NAVSEA	Oct-98	Aug-99	1,120	\$2,381	Yes	No	
REMARKS:											

CLASSIFICATION: Unclassified

APPROPRIATION:

Weapons Procurement, Navy

FY96 PRODUCTION SCHEDULE (EXHIBIT P-21)

DATE:

September 1997

BUDGET ACTIVITY:

BA-3: Torpedo and Related Equipment

P-1 ITEM NOMENCLATURE:

ASW Targets - MK 39 Mod 1

SUBHEAD:

C3TG

COST CODE	PROCUREMENT YEAR ITEM/MANUFACTURER	S E R V	ACCEPT PROC. QTY 1 OCT	BALANCE DUE AS OF 1 OCT	FISCAL YEAR 96															FISCAL YEAR 97															FISCAL YEAR 98															L A T E R
					95			CALENDER YEAR 96												CALENDER YEAR 97												CALENDER YEAR 98																		
					O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S										
					C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A	U	U	U	E										

FY 1997

[illegible]

MANUFACTURER'S NAME & LOCATION	PRODUCTION RATES			REACHED DATE		PROCUREMENT LEAD TIME			REMARKS:	
	MINIMUM SUST.	1-8-5	MAXI- MUM			ADMIN LEAD TIME		MANU- FACTUR- ING TIME		TOTAL AFTER 1 OCT
						PRIOR 1 OCT	AFTER 1 OCT			
Sippican, Inc Marion MA	40	250	500			10	4	10		24
					INITIAL	10	4	10		24
					REORDER (Previous Source)	0	10	10	20	
A = Contract Award										

Form 2445, Jul 87

P-1 SHOPPING LIST ITEM NO.

PAGE

CLASSIFICATION: Unclassified

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5

CLASSIFICATION: Unclassified

APPROPRIATION:

Weapons Procurement, Navy

FY96 PRODUCTION SCHEDULE (EXHIBIT P-21)

DATE:

September 1997

BUDGET ACTIVITY:

BA-3: Torpedo and Related Equipment

P-1 ITEM NOMENCLATURE:

ASW Targets - MK 39 Mod 1

	SUBHEAD:
--	----------

C3TG

[illegible]

Form 2445, Jul 87

P-1 SHOPPING LIST ITEM NO.

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CLASSIFICATION: Unclassified

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EXHIBIT P-20, REQUIREMENTS STUDY			APPROPRIATION:				DATE:		
			Weapons Procurement, Navy		BA-3: Torpedo and Related Equipment		September 1997		
P-1 ITEM NOMENCLATURE: ASW Targets - EMATT		SUBHEAD: C3TG		Admin Leadtime (after Oct 1): 4			Prod Leadtime: 10		
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Buy Summary		0	1000	0	1120	1125	1125	1250	1250
Unit Cost		0	2.5	0	2.381	2.403	2.411	2.464	2.518
Total Cost		0	2500	0	2667	2703	2712	3080	3148
Asset Dynamics									
Beginning Asset Position		1780	1907	4622	7120	4456	1909	0	0
Deliveries from all prior year funding		1050	3600	3300	0	0	0	0	0
Deliveries from FY 97 funding		0	0	83	917	0	0	0	0
Deliveries from FY 98 funding		0	0	0	0	0	0	0	0
Deliveries from FY 99 funding		0	0	0	94	1026	0	0	0
Deliveries from subsequent years' funding		0	0	0		100	1025	1125	1250
Other Gains		0	0	0		0	0	0	0
Combat Losses/Usage		0	0	0		0	0	0	0
Training Losses/Usage		793	769	751	3565	3563	2824	1015	1140
Test losses/Usage		100	96	84	90	90	90	90	90
Other Losses/Usage		30	20	50	20	20	20	20	20
Disposals/Retirements/Attritions/Etc.								0	
End of Year Asset Position		1907	4622	7120	4456	1909	0	0	0
Inventory Objective or Current Authorized Allowance		1519	885	885	3675	3673	3673	3673	3673
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)		Vehicles Eligible for FY 98 Replacement		Aircraft: TOAI: n/a	
Assets Rqd for Combat Loads: 775	FY 96 thru 30-Sep-1996: 793	FY 96 thru 30-Sep-1996: 130		FY 96 thru 30-Sep-1996:		Vehicles Eligible for FY 99 Replacement		PAA: TAI: n/a	
WRM Rqmt:	FY 1995 839	FY 1995 105		FY 1995 0		Vehicle Augment:		Attririon Res: 0	
Pipeline: 500	FY 1994 912	FY 1994 100		FY 1994 0				BAI 0	
Other: 150	FY 1993 653	FY 1993 120		FY 1993 0				Inactive Inv: 0	
TOTAL: 1425	3197	455						Storage: 0	
REMARKS:									
Starting in FY97, MK39 EMATT procurements represent MK39 Mod 1 instead of MK39 Mod 0.									

P-1 SHOPPING LIST	
LINE ITEM NO.	PAGE NO.
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CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: September 1997					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3								P-1 ITEM NOMENCLATURE Vertical Launch ASROC (C3DQ), LI# 314500					
Program Element for Code B Items: 0204228N								Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY	390	A	23	11	14	0	0	0	0	0	0	0	438
COST (\$M)	\$206.8		\$20.5	\$9.7	\$12.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$249.7
Initial Spares (\$M)	\$2.3		\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.4
Total (\$M)	\$209.1		\$20.7	\$9.7	\$12.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$252.2
Unit Cost (\$M)	\$0.5		\$0.9	\$0.9	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.6
<p>ITEM DESCRIPTION/JUSTIFICATION:</p> <p>VLA provides an Intermediate range, quick-reaction, all weather, ASW capability for ships receiving the new Vertical Launching System. The VLA Missile utilizes the MK-46 MOD 5A(S) and MK-46 MOD 5A(SW) torpedo payload.</p> <p>FOT&E tests were completed in September 1992 and Full Production authorized in January 1993.</p> <p>Installation Data: These missiles will be a part of the ASW ordnance inventory to support combatants equipped with VLS (DDG-51, CG-47 Class Ships).</p>													

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CLASSIFICATION:

UNCLASSIFIED

WEAPONS SYSTEM COST ANALYSIS P-5								Weapon System				DATE: September 1997		
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Vertical Launch ASROC, C3DQ, LI# 314500							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
DQ003	<u>VLA Missiles</u>	A	11	706	7,770	14	721	10,096	0		0	0		0
DQ830	<u>Production Engineering (In-House)</u>				1136			1,759			0			0
	<u>Production Engineering (Contractor)</u>				400			400			0			0
DQ860	<u>Acceptance Test & Evaluation</u>				381			474			0			0
TOTAL			11	706	9,687	14	721	12,729	0	0	0	0	0	0

DD FORM 2446, JUN 86

P-1 SHOPPING LIST

CLASSIFICATION:

ITEM NO. 23

PAGE NO. 2

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40									DATE: September 1997				
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3								P-1 ITEM NOMENCLATURE Torpedo MK46 Mods, C3F5, LI# 321500					
Program Element for Code B Items: 0204228N								Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY SLEP	675	A	180	220	73	0	0	0	0	0	0	0	1148
QUANTITY LHT	0	B	0	0	0	0	0	13	47	60	82	798	1000
(In Millions)	\$27.9		\$2.4	\$3.5	\$1.5	\$0.3	\$0.0	\$16.7	\$28.1	\$31.8	\$38.2	\$355.4	\$505.9
Initial Spares (\$M)			\$0.8	\$0.8	\$0.2	\$1.2	\$1.5	\$0.9	\$2.6	\$2.8	\$3.2		\$14.1
Total (\$M)	\$27.9		\$3.2	\$4.3	\$1.7	\$1.5	\$1.5	\$17.6	\$30.7	\$34.6	\$41.4	\$355.4	\$520.0
Unit Cost (\$M)	\$0.04		\$0.02	\$0.02	\$0.02	\$0.00	\$0.00	\$1.35	\$0.65	\$0.58	\$0.51	\$0.45	\$0.24
<p>ITEM DESCRIPTION/JUSTIFICATION:</p> <p>The MK46 is an in-service lightweight torpedo designed for launch from surface vessel torpedo tubes, VLA/ASROC, and fixed/rotary wing aircraft. The product improvement program will improve effectiveness.</p> <p>Procurement of SLEP kits in FY94 through FY97 will provide improvements in warfighting capabilities in Bottom Avoidance, CCM Shallow, and Aft Seal.</p> <p>The Lightweight Hybrid Torpedo (LHT) is a modular upgrade to the MK46 torpedo. It is comprised of the MK50 sonar, MK46 warhead and propulsion system and new COTS processors which will use tactical software derived from MK50 and MK48 ADCAP. The LHT will provide improved performance against diesel electric submarine threats operating in shallow water. The LHT LRIP contract will begin in FY00.</p>													

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CLASSIFICATION:

UNCLASSIFIED

WEAPONS SYSTEM COST ANALYSIS P-5									Weapon System			DATE: September 1997		
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3							ID Code	P-1 ITEM NOMENCLATURE/SUB 35674 Torpedo MK46 Mods, C3F5, LI# 321500						
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F5103	<u>SLEP Hardware</u>	A	220	14	3,183	73	15	1,097	0		0	0		0
F5104	<u>HYBRID Hardware</u>	B	0		0	0		0	0		0	0		0
F5105	<u>Exercise Head</u>													0
F5003	<u>Support Equipment</u>				0			0			0			0
F5830	<u>Production Engineering (In-House)</u>				0			382			206			0
F5860	<u>Acceptance Test & Evaluation</u>				231			41			38			0
F5900	<u>Production Engineering (Contractor)</u>				96			0			30			0
FY96 Production Engineering (In-House) is forward financed by FY94 and FY95 funds.														
TOTAL			220	14	3,510	73	15	1,520	0	0	274	0	0	0

DD FORM 2446, JUN 86

P-1 SHOPPING LIST

CLASSIFICATION:

ITEM NO. 24

PAGE NO. 2

UNCLASSIFIED

CLASSIFICATION: **UNCLASSIFIED**

P3A		INDIVIDUAL MODIFICATION																							
MODELS OF SYSTEM AFFECTED:		<u>MK46 SLEP</u>				TYPE MODIFICATION:				MODIFICATION TITLE: <u>Bottom Avoidance/CCM Shallow Water/Aft Seal (F5103)</u>															
DESCRIPTION/JUSTIFICATION: The Counter-Counter Measure (CCM) Shallow Water modification modifies algorithms and PWBs in the control group of the MK46 torpedo to improve performance against counter-measures in a shallow water environment. The Aft Seal modification provides an improved seal on the drive shaft of the MK46 torpedo to prevent water entry. The Bottom Avoidance modification provides search depth setting limitations on the MK46 torpedo to provide bottom avoidance in shallow water environments.																									
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																									
		FY 1994 & Prior		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
		QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$
FINANCIAL PLAN (IN MILLIONS)																									
RDT&E																									0
PROCUREMENT																									0
INSTALLATION KITS		675	12,134	180	1,627	220	3,183	73	1,097																1,148
INSTALLATION KITS NONRECURRING																									0
EQUIPMENT																									0
EQUIPMENT NONRECURRING																									0
ENGINEERING CHANGE ORDERS																									0
DATA																									0
TRAINING EQUIPMENT																									0
SUPPORT EQUIPMENT																									0
OTHER			15,016		720		231		423		244														16,634
OTHER																									0
OTHER																									0
INTERIM CONTRACTOR SUPPORT			792		96		96		0		30														1,014
INSTALL COST																									0
TOTAL PROCUREMENT		675	27,942	180	2,443	220	3,510	73	1,520	0	274	0	0	0	0	0	0	0	0	0	0	0	0	1,148	
																									35,689

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

INDIVIDUAL MODIFICATION (Continued)

MODELS OF SYSTEMS AFFECTED: MK46 SLEP

MODIFICATION TITLE: Bottom Avoidance/CCM Shallow Water/Aft Seal (F5103)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Firm Fixed Price Contract - Alliant Techsystems contracted by NAVSEA**

ADMINISTRATIVE LEADTIME:

PRODUCTION LEADTIME:

CONTRACT DATES: PY: Apr-96

CY: Mar-97

DELIVERY DATE: PY: Feb-97

CY: Jan-98

(\$ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																								
FY 1995 EQUIPMENT																								
FY 1996 EQUIPMENT																								
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																								
FY 2003 EQUIPMENT																								
TO COMPLETE																								
Totals							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

UNPAID FROM SCHEDULE Input-Delivery to the Agency, Output-Facility providing to Host, Easy for Issue																															
	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				TC	
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		TOTAL
In	450	150	150	150	88	87	20	20	20	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1148	
Out	200	68	68	69	69	62	62	63	63	81	82	82	82	24	24	24	25	0	0	0	0	0	0	0	0	0	0	0	0	1148	

P-3A

CLASSIFICATION: UNCLASSIFIED

P3A

INDIVIDUAL MODIFICATION

MODELS OF SYSTEM AFFECTED: Lightweight HYBRID Torpedo TYPE MODIFICATION: MODIFICATION TITLE: HYBRID Hardware (F5104)

DESCRIPTION/JUSTIFICATION:

The Lightweight Hybrid Torpedo (LHT) is a modular upgrade, designed to take advantage of the current USN investments in hardware and technology by utilizing components from the MK46 & MK50 Torpedoes, as well as commercial-off-the-shelf (COTS) processor components with open systems architecture. In addition, it will integrate software improvements gained from the MK50 Shallow Water Performance Program.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development testing begins 2nd qtr FY99, OPEVAL complete 2nd qtr FY02

	FY 1994 & Prior		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$
FINANCIAL PLAN (IN MILLIONS)																								
RDT&E		8,898		9,754		19,773		10,381		17,290		8,207		9,407		8,807		8,007		2,607				103,131
PROCUREMENT																								
INSTALLATION KITS													13	5,277	47	14,934	60	19,601	82	23,906	798	227,520	1,000	291,238
INSTALLATION KITS NONRECURRING																								0
EQUIPMENT													1,853		0		1,452		2,102			0		5,407
EQUIPMENT NONRECURRING																								0
ENGINEERING CHANGE ORDERS																								0
DATA																								0
TRAINING EQUIPMENT																								0
SUPPORT EQUIPMENT													2,441		1,249		233		235		2,824			6,982
OTHER													6,261		10,999		9,390		10,692		107,162			144,504
OTHER																								0
OTHER																								0
INTERIM CONTRACTOR SUPPORT													834		852		871		890		7,976			11,423
INSTALL COST													0		33		249		406		9,962			10,650
TOTAL PROCUREMENT	0	0	0	0	0	0	0	0	0	0	0	0	13	16,666	47	28,067	60	31,796	82	38,231	798	355,444	1,000	470,204

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued) **INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: Lightweight HYBRID Torpedo MODIFICATION TITLE: HYBRID Hardware (F5104)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Firm Fixed Price Contract - Contractor TBD**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY1999: _____ FY 2000: Jan-00 FY 2001: Jan-01 FY 2002: May-02 FY 2003: Jan-03

DELIVERY DATE: FY1999: _____ FY 2000: Jul-01 FY 2001: Jul-02 FY 2002: Nov-03 FY 2003: Jul-04

(\$ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																								
FY 1995 EQUIPMENT																								
FY 1996 EQUIPMENT																								
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																							0	0
FY 2000 EQUIPMENT															3	33	10	113					13	146
FY 2001 EQUIPMENT																	12	136	35	406			47	542
FY 2002 EQUIPMENT																					60	703	60	703
FY 2003 EQUIPMENT																					82	874	82	874
TO COMPLETE																					798	8,385	798	8,385
Totals							0	0	0	0	0	0	0	0	3	33	22	249	35	406	940	9,962	1000	10,650

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4	3	12	12	11	12	0	940	1000
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	3	6	12	11	960	1000

P-3A

CLASSIFICATION:

UNCLASSIFIED: CORRECTED COPY

BUDGET ITEM JUSTIFICATION SHEET P-40										DATE: September 1997			
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3 Program Element for Code B Items: 0204228N								P-1 ITEM NOMENCLATURE MK48 ADCAP MODS TORPEDO (C3D1), LI# 322500 Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY MODS	0	A	88	150	135	155	108	108	108	108	86	0	1046
QUANTITY CBASS	0	B	0	0	0	0	0	0	0	25	63	958	1046
COST (\$M)	\$0.0		\$50.3	\$56.7	\$52.6	\$55.4	\$54.0	\$53.4	\$51.8	\$63.3	\$71.2	\$398.9	\$907.6
Initial Spares (\$M)			\$2.6	\$4.5	\$6.9	\$2.2	\$4.0	\$2.8	\$2.1	\$2.3	\$2.4		\$29.9
Total (\$M)	\$0.0		\$52.9	\$61.2	\$59.5	\$57.6	\$58.0	\$56.2	\$53.8	\$65.6	\$73.6	\$398.9	\$937.4
Unit Cost (\$M)	\$0.00		\$0.60	\$0.41	\$0.44	\$0.37	\$0.54	\$0.52	\$0.50	\$0.49	\$0.49	\$0.42	\$0.45

ITEM DESCRIPTION/JUSTIFICATION:

This line item procures Modification Kits for the MK48 ADCAP Torpedo. The MK48 ADCAP MODS program incorporates both a Guidance and Control (G&C) modification and a Torpedo Propulsion Upgrade (TPU) modification to the baseline ADCAP system.

The G&C Modification addresses the need to increase memory and processing capacity of the G&C hardware and to replace obsolete and sunset electronic component parts. The increased capacity is required for future advanced signal processing techniques that will be needed for performance upgrades in shallow water target detection/classification. The TPU addresses the Navy's operational requirement for a quieter ADCAP torpedo. These modifications will allow the MK48 ADCAP torpedo to operate effectively in adverse environments, thus enabling the MK48 ADCAP torpedo to counter enemy submarine threats into the 21st century.

The Common Broadband Advanced Sonar System (CBASS), starting in FY02 with the purchase of 25 LRIP units, will incorporate into the ADCAP MODs torpedo a new wide band transducer array, receiver, transmitter, and software algorithms. These new elements will provide the capability to transmit and receive over a wide frequency band to take advantage of broadband signal processing techniques. These improvements are necessary to overcome current and future improvements in advanced threat countermeasures capabilities.

RDT&E PE #0205632N, PU #V0366

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WEAPONS SYSTEM COST ANALYSIS P-5									Weapon System			DATE: September 1997		
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD MK48 ADCAP MODS TORPEDO (C3D1), LI# 322500							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
D1001	ADCAP MODS CBASS	A B	150	133	20,013 0	135	169	22,880 0	155	172	26,647 0	108	223	24,033 0
D1003	Support and Ancillary Equipment				4,977			2,631			2,513			2,848
D1830	Production Engineering (Contractor)				10,676			8,528			6,171			5,941
D1830	Production Engineering (In-House)				9,350			7,510			7,437			8,063
D1860	Acceptance Test & Evaluation (Contractor)				349			554			810			865
D1860	Acceptance Test & Evaluation (In-House)				10,958			10,509			11,814			12,244
	Bosnia				392									
TOTAL					56,715			52,612			55,392			53,994

DD FORM 2446, JUN 86

P-1 SHOPPING LIST

CLASSIFICATION:

ITEM NO. 25

PAGE NO. 2

UNCLASSIFIED

CLASSIFICATION: **UNCLASSIFIED: CORRECTED COPY**

P3A		INDIVIDUAL MODIFICATION																																																																			
MODELS OF SYSTEM AFFECTED:		MK48 ADCAP										MODIFICATION TITLE:										MK48 ADCAP MODS Torpedo (D1001)																																															
DESCRIPTION/JUSTIFICATION: <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> The Modification Kits for the MK48 ADCAP Torpedo allows the MK48 ADCAP torpedo to operate in adverse environments such as shallow water, thus enabling the MK48 ADCAP torpedo to counter enemy submarine threats into the 21st century. </div>																																																																					
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: <div style="float: right; text-align: right;"> MS II approved in Jan 1993; MS III approved in Apr. 1996 </div>																																																																					
<table style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;">FY 1994 & Prior</th> <th colspan="2" style="text-align: left;">FY 1995</th> <th colspan="2" style="text-align: left;">FY 1996</th> <th colspan="2" style="text-align: left;">FY 1997</th> <th colspan="2" style="text-align: left;">FY 1998</th> <th colspan="2" style="text-align: left;">FY 1999</th> <th colspan="2" style="text-align: left;">FY 2000</th> <th colspan="2" style="text-align: left;">FY 2001</th> <th colspan="2" style="text-align: left;">FY 2002</th> <th colspan="2" style="text-align: left;">FY 2003</th> <th colspan="2" style="text-align: left;">TC</th> <th colspan="2" style="text-align: left;">TOTAL</th> </tr> <tr> <th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th><th>QTY</th><th>\$</th> </tr> </table>																						FY 1994 & Prior		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$
FY 1994 & Prior		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL																																															
QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$																																														
FINANCIAL PLAN (IN MILLIONS)																																																																					
RDT&E							15511		10816		7674		12418		12273		11909		19428		26337			116366																																													
PROCUREMENT																																																																					
INSTALLATION KITS		0	0	88	12110	150	20013	135	16400	155	19605	108	17309	108	16757	108	16705	108	16041	86	13525	0	0	1046	148465																																												
INSTALLATION KITS NONRECURRING EQUIPMENT																																																																					
EQUIPMENT NONRECURRING							2320																	2320																																													
ENGINEERING CHANGE ORDERS																																																																					
DATA																																																																					
TRAINING EQUIPMENT																																																																					
SUPPORT EQUIPMENT					3871		2657		2631		2513		2848		2838		2834		2456		1739		4176	28563																																													
OTHER					28833		26245		21901		21392		22716		22713		22278		18278		13909		12820	211085																																													
OTHER																																																																					
OTHER																																																																					
INTERIM CONTRACTOR SUPPORT					4964		5088		5200		4840		4397		4494		4593		3823		3611		6015	47025																																													
INSTALL COST					0		0		6480		7042		6724		6582		5342		5459		5580		7926	51135																																													
TOTAL PROCUREMENT		0	0	88	49778	150	56323	135	52612	155	55392	108	53994	108	53384	108	51752	108	46057	86	38364	0	30937	1046	488593																																												

CLASSIFICATION: **UNCLASSIFIED: CORRECTED COPY**

P3A (Continued)

INDIVIDUAL MODIFICATION (Continued)

MODELS OF SYSTEMS AFFECTED: MK48 ADCAP

MODIFICATION TITLE: MK48 ADCAP MODS Torpedo

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: FPI - Northrop Grumman contracted by NAVSEA.

ADMINISTRATIVE LEADTIME:

3 Months

PRODUCTION LEADTIME:

16 Months

CONTRACT DATES:

FY1997:

Jan-97

FY1998:

Jan-98

FY1999:

Jan-99

DELIVERY DATE:

FY1997:

May-98

FY1998:

May-99

FY1999:

May-00

(\$ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																							0	0
FY 1995 EQUIPMENT							88	3988															88	3988
FY 1996 EQUIPMENT							55	2492	95	4401													150	6893
FY 1997 EQUIPMENT									57	2641	78	3693											135	6334
FY 1998 EQUIPMENT											64	3031	91	4404									155	7435
FY 1999 EQUIPMENT													45	2178	63	3116							108	5294
FY 2000 EQUIPMENT															45	2226	63	3184					108	5410
FY 2001 EQUIPMENT																	45	2275	63	3254			108	5529
FY 2002 EQUIPMENT																			45	2325	63	3326	108	5651
FY 2003 EQUIPMENT																					86	4600	86	4600
TO COMPLETE																					0	0	0	0
Totals							143	6480	152	7042	142	6724	136	6582	108	5342	108	5459	108	5579	149	7926	1046	51134

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				TC	
		1	2	3	4	1	2	3	4	1	2	3		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		TOTAL
In	0	14	21	48	60	43	43	32	34	34	33	36	39	39	39	31	27	27	27	27	27	27	27	27	27	27	27	27	194	1046	
Out	0				14	48	60	43	43	32	34	34	33	36	39	39	39	31	27	27	27	27	27	27	27	27	27	27	203	1046	

P-3A

CLASSIFICATION: UNCLASSIFIED: CORRECTED COPY

P3A		INDIVIDUAL MODIFICATION																									
MODELS OF SYSTEM AFFECTED:		MK48 ADCAP										MODIFICATION TITLE:								Common Broadband Advanced Sonar System (CBASS) (D1001)							
DESCRIPTION/JUSTIFICATION:																											
The Common Broadband Advanced Sonar System (CBASS) will incorporate into the ADCAP MODs torpedo a new wide band transducer array, receiver, transmitter, and software algorithms. These new elements will provide the capability to transmit and receive over a wide frequency band to take advantage of broadband signal processing techniques. These improvements are necessary to overcome current and future improvements in advanced threat countermeasures capabilities.																											
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																											
MS II planned for first qtr FY98																											
	FY 1994 & Prior		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$			
FINANCIAL PLAN (IN MILLIONS)																											
RDT&E																											
PROCUREMENT																											
INSTALLATION KITS																											
INSTALLATION KITS NONRECURRING																											
EQUIPMENT																											
EQUIPMENT NONRECURRING																											
ENGINEERING CHANGE ORDERS																											
DATA																											
TRAINING EQUIPMENT																											
SUPPORT EQUIPMENT																											
OTHER																											
OTHER																											
OTHER																											
INTERIM CONTRACTOR SUPPORT																											
INSTALL COST																											
TOTAL PROCUREMENT																											

CLASSIFICATION: UNCLASSIFIED: CORRECTED COPY

P3A (Continued)

INDIVIDUAL MODIFICATION (Continued)

MODELS OF SYSTEMS AFFECTED: MK48 ADCAP

MODIFICATION TITLE: Common Broadband Advanced Sonar System (CBASS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor - TBD

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY1997: FY1998: FY1999:

DELIVERY DATE: FY1997: FY1998: FY1999:

(\$ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																								
FY 1995 EQUIPMENT																								
FY 1996 EQUIPMENT																								
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																		10	517		15	792	25	1309
FY 2003 EQUIPMENT																					63	3371	63	3371
TO COMPLETE																					958	60833	958	60833
Totals		0		0		0	0	0	0	0	0	0	0	0	0	0	0	10	517		1036	64996	1046	65513

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1036	1046
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1046	1046	

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CLASSIFICATION: UNCLASSIFIED

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BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: September 1997					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo and Related Equipment								P-1 ITEM NOMENCLATURE Torpedo Support Equipment - 330100					
Program Element for Code B Items: LI #330100								Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)			\$65.0	\$30.5	\$21.5	\$25.5	\$25.0	\$24.1	\$23.1	\$25.2	\$26.4		\$266.3
<p>The Torpedo Support Equipment account procures various torpedo components required to ready weapons for Anti-Submarine Warfare forces afloat, Sub-Surface and Airborne to achieve and maintain a readiness posture sufficient to counter the enemy sub-surface threat. The objective of this line is to provide the fleet with ready exercise weapons for conducting training maneuvers which involve actually firing the torpedoes, and to maintain warshot inventories in an operational ready-for-issue status in support of combat ready deployment by anti-submarine warfare forces. After a torpedo is fired during a training exercise it is recovered and all expendable components such as batteries, cables, igniters (as well as various accessories required for air-launched torpedoes), must be replaced. These items as well as components such as exercise heads, fuel tanks, and exhaust valves which may be used more than once, but which are worn out or lost in service, are procured each fiscal year in quantities dependent upon the fleet training requirements and tempo of operations. The torpedoes requiring support are the MK46, MK46 SLEP, MK50, MK48 Mod 4 and ADCAP. In addition to components procurement, this account provides for production support and test/evaluation for these components and procurement of product improvement hardware and related equipment.</p>													

CLASSIFICATION:

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WEAPONS SYSTEM COST ANALYSIS								Weapon System				DATE:			
P-5												September 1997			
APPROPRIATION/BUDGET ACTIVITY								ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD						
Weapons Procurement, Navy/Torpedo and Related Equipment									Torpedo Support Equipment/C3F8						
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS												
			FY 1996			FY 1997			FY 1998			FY 1999			
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	
	PEO (UNDERSEA WARFARE)														
	Lightweight Support Equipment				\$6,998			\$1,592			\$4,956			\$6,159	
	MK48/ADCAP Support Equipment				\$23,334			\$19,894			\$20,553			\$18,881	
	Torpedo Support Equipment				\$30,332			\$21,486			\$25,509			\$25,040	
TOTAL															

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

WEAPONS SYSTEM COST ANALYSIS P-5								Weapon System Lightweight Torpedo			DATE: September 1997			
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo and Related Equipment						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Torpedo Support Equipment/C3F8							
COST CODE	ELEMENT OF COST	IDENT CODE	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F8001	Lightweight Support Equipment													
	MK46 Lead Dropper		228	\$0.367	\$84	0		\$0	1211	\$0.411	\$498	1000	\$0.420	\$420
	MK46 Mod 5 Seawater Battery		460	\$0.286	\$132	0		\$0	1800	\$0.292	\$526	402	\$0.298	\$120
	MK46 Pressure Cylinder (Long)		181	\$0.138	\$25	0		\$0	0		\$0	0		\$0
	MK46 Pressure Cylinder (Short)		0		\$0	0		\$0	675	\$0.256	\$173	402	\$0.261	\$105
	MK46 REXTORP Kits		0		\$0	0		\$0	150	\$0.511	\$77	405	\$0.521	\$211
	MK89 Mod 1 Suspension Bands		0		\$0	0		\$0	2200	\$0.439	\$966	1900	\$0.448	\$851
	MK50 Boiler Assembly		105	\$22.495	\$2,362	0		\$0	0		\$0	0		\$0
	MK50 Oxidant Stop Squib		43	\$0.359	\$15	0		\$0	0		\$0	0		\$0
	MK50 Oxidant Shutdown Valve		44	\$0.629	\$28	0		\$0	0		\$0	0		\$0
	MK50 Gas Injection Assembly		57	\$0.841	\$48	0		\$0	0		\$0	0		\$0
	MK50 Tailnut		343	\$0.072	\$25	0		\$0	0		\$0	0		\$0
	MK50 MK 33 Air Stabilizer		0		\$0	0		\$0	350	\$1.123	\$393	218	\$1.148	\$250
	MK50 MK 32 Air Stabilizer		374	\$2.051	\$767	0		\$0	400	\$1.123	\$449	186	\$1.148	\$213
	Sub-Total				\$3,485			\$0			\$3,081			\$2,171
F8002	Other Equipment Investment													
	Product Improvement Hardware				\$173			\$0			\$0			\$186
	ORDALT Procurement				\$333			\$503			\$0			\$804
	FES Replacement/Improvement				\$0			\$0			\$495			\$0
	Test Equipment Upgrade				\$0			\$0			\$0			\$1,484
	Sub-Total				\$506			\$503			\$495			\$2,474
F8830	Production Engineering - In House				\$2,601			\$885			\$830			\$960
F8840	Quality Assurance				\$0			\$0			\$184			\$212
F8850	Product Improvement				\$0			\$0			\$0			\$0
F8860	Acceptance T & E				\$173			\$204			\$175			\$166
F8900	Production Engineering - Contractor				\$233			\$0			\$190			\$177
TOTAL					\$6,998			\$1,592			\$4,956			\$6,159

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WEAPONS SYSTEM COST ANALYSIS								Weapon System			DATE:			
P-5								Heavyweight Torpedo			September 1997			
APPROPRIATION/BUDGET ACTIVITY						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD							
Weapons Procurement, Navy/Torpedo and Related Equipment							Torpedo Support Equipment/C3F8							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F8100	EXERCISE EXPENDABLES AND COMPONENT REPLACEMENT													
	TORPEDO WIRE COIL		0		\$0	0	\$2.000	\$0	700	\$2.042	\$1,429	1,000	\$2.085	\$2,085
	SUBMARINE WIRE COIL		0		\$0	500	\$2.000	\$1,000	0		\$0	750	\$2.087	\$1,565
	FLEX HOSE(IMPROVED)		0		\$0	515	\$2.325	\$1,197	500	\$2.374	\$1,187	500	\$2.424	\$1,212
	OTTO FUEL (1,000 lbs per unit)		123	\$5.407	\$665	392	\$5.340	\$2,093	300	\$5.340	\$1,602	300	\$7.480	\$2,244
	IGNITER		1,101	\$0.133	\$146	0		\$0	0		\$0	0		\$0
	PROPELLANT (Long)		1,000	\$0.500	\$500	334	\$0.500	\$167	1,500	\$0.565	\$847	1,000	\$0.576	\$576
	UMBILICAL CABLE (IMPROVED)		362	\$3.249	\$1,176	330	\$5.865	\$1,935	415	\$5.988	\$2,485	0		\$0
	ARMING DEVICE		0		\$0	0		\$0	0		\$0	0		\$0
	SUBTOTAL				\$2,487			\$6,393			\$7,550			\$7,682
F8101	OTHER EQUIPMENT INVESTMENT													
	PRODUCT IMPROVEMENT				\$3,324			\$1,883			\$1,700			\$1,612
	FES REPLACEMENT/IMPROVEMENT				\$0			\$1,400			\$1,143			\$1,173
	PROPULSION FUEL TANK SUPPORT				\$915			\$895			\$879			\$815
	EXERCISE FUEL TANK UPGRADE PROGRAM				\$0			\$0			\$492			\$422
	ORDALT MATERIAL				\$4,757			\$3,596			\$3,351			\$2,487
	ORDALT INSTALLATION				\$4,458			\$2,183			\$1,836			\$1,414
	CHAMBER & VALVE RELOADS				\$727			\$498			\$509			\$471
	RECOVERY SYSTEMS				\$0			\$0			\$144			\$135
	TIES III EXERCISE SECTION UPGRADE				\$0			\$441			\$463			\$427
	TEST EQUIPMENT UPGRADE				\$4,001			\$136			\$130			\$124
	SUBTOTAL				\$18,182			\$11,032			\$10,647			\$9,080
	PRODUCTION SUPPORT													
F8833	PRODUCTION ENGINEERING (IN-HOUSE)				\$614			\$342			\$517			\$490
F8843	QUALITY ASSURANCE				\$1,575			\$1,580			\$1,345			\$1,211
F8863	ACCEPTANCE TEST & EVALUATION				\$476			\$547			\$494			\$418
TOTAL					\$23,334			\$19,894			\$20,553			\$18,881

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)						Weapon System Lightweight Torpedo		A. DATE September 1997		
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo Support Equipment					C. P-1 ITEM NOMENCLATURE Torpedo Support Equipment				SUBHEAD C3F8	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE
<u>FY1996</u>										
MK46 Lead Dropper	228	\$0.367	NOC/IMSD		PD/FFP	Reisner Products Inc.	7/96	7/97	Yes	
MK46 Seawater Battery	460	\$0.286	NOC/IMSD		PD/FFP	Magne Volt, NC	7/96	7/98	Yes	
MK46 Pressure Cylinder (Long)	181	\$0.138	NOC/IMSD		PD/FFP	CAD, NJ	5/96	12/96	Yes	
MK50 Boiler Assembly	105	\$22.495	NUWC, Newport		WX	Sundstrand	5/96	5/98	Yes	
MK50 Oxidant Stop Squib	43	\$0.359	NOC/IMSD		PD/FFP	CAD, NJ	9/96	9/98	Yes	
MK50 Oxidant Shutdown Valve	44	\$0.629	NOC/IMSD		PD/FFP	CAD, NJ	11/96	11/98	Yes	
MK50 Gas Injection Assembly	57	\$0.841	NOC/IMSD		PD/FFP	CAD, NJ	5/96	12/96	Yes	
MK50 Tailnut	343	\$0.072	NOC/IMSD		PD/FFP	Melstrum, NJ	5/96	9/96	Yes	
MK50 MK32 Air Stabilizer	374	\$2.051	NOC/IMSD		PD/FFP	Paranetics	9/96	9/98	Yes	
<u>FY 1998</u>										
MK46 Lead Dropper	1211	\$0.411	NUWC, Keyport		RC/FFP	Unknown	7/98	7/99	Yes	
MK46 Seawater Battery	1800	\$0.292	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
MK46 Pressure Cylinder (Short)	675	\$0.256	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
MK46 REXTORP Kits	150	\$0.511	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
MK89 Mod 1Suspension Band	2200	\$0.439	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
MK50 MK33 Air Stabilizer	350	\$1.123	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
MK50 MK32 Air Stabilizer	400	\$1.123	NUWC, Keyport		RC/FFP	Unknown	7/98	7/00	Yes	
<u>FY1999</u>										
MK46 Lead Dropper	1000	\$0.420	NUWC, Keyport		RC/FFP	Unknown	7/99	7/00	Yes	
MK46 Seawater Battery	402	\$0.298	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
MK46 Pressure Cylinder (Short)	402	\$0.261	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
MK46 REXTORP Kits	405	\$0.521	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
MK89 Mod 1Suspension Band	1900	\$0.448	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
MK50 MK33 Air Stabilizer	218	\$1.148	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
MK50 MK32 Air Stabilizer	186	\$1.148	NUWC, Keyport		RC/FFP	Unknown	7/99	7/01	Yes	
D. REMARKS										

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System Heavyweight Torpedo			A. DATE September 1997		
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo Support Equipment					C. P-1 ITEM NOMENCLATURE Torpedo Support Equipment				SUBHEAD C3F8	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE
<u>FY1996</u>										
Otto Fuel (1,000 lbs per unit)	123	\$5.407	NOC/IMSD		PD/FFP	Indian Head	2/96	10/97	Yes	
Igniter	1101	\$0.133	NOC/IMSD		PD/FFP	Qunatic Inc, CA	2/96	8/96	Yes	
Propellant (Long)	1000	\$0.500	NOC/IMSD		PD/FFP	Thiokol, MD	1/97	8/98	Yes	
Umbilical Cables (Improved)	362	\$3.249	NUWC, Newport		PD/FFP	GNH Technologies, LA	3/96	5/98	Yes	
<u>FY1997</u>										
Flex Hose (Improved)	515	\$2.325	NUWC, Keyport	3-Apr-97	RC/FFP	Entwistle,MA	9/97	8/98	Yes	
Sub Wire Coil	500	\$2.000	NUWC, Keyport	12-Mar-97	RC/FFP	Entwistle,MA	7/97	9/99	Yes	
Otto Fuel	392	\$5.340	Indian Head, MD		WR	Indian Head, MD	10/96	7/98	Yes	
Umbilical Cables (Improved)	330	\$5.865	NUWC, Newport		RC/FFP	Sea Con	7/97	5/98	Yes	
<u>FY1998</u>										
Flex Hose (Improved)	500	\$2.374	NUWC, Keyport		RC/FFP	Unknown	6/98	8/99	Yes	
Torpedo Wire Coil	700	\$2.042	NUWC, Keyport		RC/FFP	Unknown	6/98	9/00	Yes	
Otto Fuel	300	\$5.340	Indian Head, MD		WR	Indian Head, MD	10/97	7/99	Yes	
Propellant (Long)	1500	\$0.565	NUWC, Keyport		RC/FFP	Unknown	6/98	8/00	Yes	
Umbilical Cables (Improved)	415	\$5.988	NUWC, Keyport		RC/FFP	Unknown	6/98	5/99	Yes	
<u>FY 1999</u>										
Sub Wire Coil	750	\$2.087	NUWC, Keyport		RC/FFP	Unknown	6/99	7/01	Yes	
Flex Hose (improved)	500	\$2.424	NUWC, Keyport		RC/FFP	Unknown	6/99	8/00	Yes	
Torpedo Wire Coil	1000	\$2.085	NUWC, Keyport		RC/FFP	Unknown	6/99	9/01	Yes	
Otto Fuel	300	\$7.480	Indian Head, MD		WR	Indian Head, MD	10/98	7/00	Yes	
Propellant (Long)	1000	\$0.576	NUWC, Keyport		RC/FFP	Unknown	6/99	8/01	Yes	
D. <u>REMARKS: Umbilical Cable unit cost variations FY96-FY98</u>										
The increase in unit cost for the Umbilical Cable from FY96-FY97 is attributed to the inclusion of 330 Receptacles and 500 Inserts in the FY97 unit price for Umbilical Cables, as well as First Article and Qualification Testing increases associated with a new vendor award. The FY96 P-5 and P-5a Umbilical Cable unit price does not include receptacles and inserts. Like FY97 procurement, the FY98 Umbilical Cable unit price includes 415 cables, 415 receptacles, and 500 inserts; thus, the unit price increase from FY97-FY98 is solely attributed to inflation (2.1%). No learning curve effect is included in the FY98 unit price because of uncertainty that the FY98 procurement will be awarded to the same vendor.										

Exhibit P-20, Requirements Study			Approp Code/BA 1507/BA3			Subhead C3F8		Date: September 1997		September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100				Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months				
Project Unit/Item F8001/MK46 Lead Droppers			PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY			228	0	1,211	1,000	1,000	647	647	647	647	647
Unit Cost			\$0.367		\$0.411	\$0.420	\$0.429	\$0.439	\$0.448	\$0.458	\$0.468	\$0.479
Total Cost			\$84	\$0	\$498	\$420	\$429	\$284	\$290	\$296	\$303	\$310
Asset Dynamics												
Beginning Asset Position			906	551	267	1330	683	1247	1600	1953	1953	1953
SE deliveries from all prior year funding			0	0	228	0	0	0	0	0	0	0
Spares deliveries from all prior year funding			291	364	1,482	0	0	0	0	0	0	0
Deliveries from FY 1997 funding			0	0	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding			0	0	0	0	1,211	0	0	0	0	0
Deliveries from FY 1999 funding			0	0	0	0	0	1,000	0	0	0	0
Deliveries from FY 2000 funding			0	0	0	0	0	0	1,000	0	647	0
Deliveries from FY 2001 funding			0	0	0	0	0	0	0	647	0	647
Combat Losses/Usage			0	0	0	0	0	0	0	0	0	0
Training Losses/Usage			646	648	647	647	647	647	647	647	647	647
Test Losses/Usage			0	0	0	0	0	0	0	0	0	0
Other Losses/Usage			0	0	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.			0	0	0	0	0	0	0	0	0	0
End of Year Asset Position			551	267	1330	683	1247	1600	1953	1953	1953	1953
Inventory Objective/Current Authorized Allowance			1941	1942	1941	1941	1941	1941	1941	1941	1941	1941
Example:												
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)								
	PY thru FY96: 646	PY thru FY96:	0	PY thru FY96:	0							
	FY95: 409	FY95:	0	FY95:	0							
	FY94: 490	FY94:	0	FY94:	0							
	FY93: 370	FY93:	0	FY93:	0							
TOTAL:												
REMARKS: Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Lead droppers expended during MK46 EXTORP (tube, fixed wing, rotary wing) and REXTORP (fixed wing) firings.												

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Umbilical Cables (Improved)	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	362	330	415	0	0	0	0	0
Unit Cost	\$3.248	\$5.865	\$5.988					
Total Cost	\$1,176	\$1,935	\$2,485	\$0	\$0	\$0	\$0	\$0
Asset Dynamics								
Beginning Asset Position	0	0	454	662	838	1106	954	803
Deliveries from all prior year funding	0	567	362	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	330	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	415	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	113	154	154	147	152	152	152
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	0	454	662	838	1106	954	803	651
Inventory Objective/Current Authorized Allowance	1674	1674	1674	1674	1674	1674	1674	1674
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 0	FY96: 0	FY96: 0					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings; new cable can be reused up to 5 times before replacement. Fleet introduction of new cable to be complete FY99.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Propellant (Long)	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	1,000	334	1,500	1,000	1,000	1,000	1,000	1,000
Unit Cost	\$0.500	\$0.500	\$0.565	\$0.576	\$0.588	\$0.601	\$0.613	\$0.626
Total Cost	\$500	\$167	\$847	\$576	\$588	\$601	\$613	\$626
Asset Dynamics								
Beginning Asset Position	1338	1000	200	900	233	792	787	767
Deliveries from all prior year funding	0	0	1,000	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	334	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	1,500	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	1,000	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	1,000	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	1,000
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	100	300	1001	941	1005	1020	851
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	338	700	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	1000	200	900	233	792	787	767	916
Inventory Objective/Current Authorized Allowance	1438	2101	2242	2947	2966	2876	2876	2876
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 0	FY96: 0	FY96: 0					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings; new item introduced to Fleet FY97. Other Losses/Usage: Reflect installations into Chamber and Valves (FY96-97).								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Igniter	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	1,101	0	0	0	0	1,005	1,020	851
Unit Cost	\$0.133	\$0.136	\$0.139	\$0.142	\$0.145	\$0.148	\$0.152	\$0.155
Total Cost	\$146	\$0	\$0	\$0	\$0	\$149	\$155	\$132
Asset Dynamics								
Beginning Asset Position	8544	7721	6581	6620	5619	4678	3673	2653
Deliveries from all prior year funding	0	0	1,101	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	1,005
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	823	1140	1062	1001	941	1005	1020	851
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	7721	6581	6620	5619	4678	3673	2653	2807
Inventory Objective/Current Authorized Allowance	3025	3203	3004	2947	2966	2876	2876	2876
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 823	FY96: 0	FY96: 0					
	FY95: 849	FY95: 0	FY95: 0					
	FY94: 916	FY94: 0	FY94: 0					
	FY93: 1030	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Otto Fuel II	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY (1,000 lbs. Per Unit)	123	392	300	300	300	300	300	300
Unit Cost	\$5.410	\$5.340	\$5.340	\$7.480	\$7.860	\$8.260	\$8.670	\$9.100
Total Cost	\$665	\$2,093	\$1,602	\$2,244	\$2,358	\$2,478	\$2,601	\$2,730
Asset Dynamics								
Beginning Asset Position	466	674	525	619	769	849	798	651
Deliveries from Other Sources (Reclamation)	230	229	227	226	224	116	25	25
Deliveries from all prior year funding	473	154	123	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	239	392	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	300	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	300	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	300	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	300
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	495	532	495	468	444	467	472	465
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	674	525	619	769	849	798	651	511
Inventory Objective/Current Authorized Allowance	1522	1495	1407	1379	1383	1404	1404	1404
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 495	FY96:	0	FY96:	0			
	FY95: 440	FY95:	0	FY95:	0			
	FY94: 410	FY94:	0	FY94:	0			
	FY93: 445	FY93:	0	FY93:	0			
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings. Deliveries from Other Sources: Adjusted to reflect reclaimed Otto fuel. FY01 decrease in reclamation due to the completion of Deep Stow.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Flex Hose (Improved)	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	515	500	500	1,000	1,000	1,000	1,000
Unit Cost		\$2.325	\$2.374	\$2.424	\$2.475	\$2.527	\$2.580	\$2.634
Total Cost	0	\$1,197	\$1,187	\$1,212	\$2,475	\$2,527	\$2,580	\$2,634
Asset Dynamics								
Beginning Asset Position	0	982	2788	2019	1765	1531	1272	1513
Deliveries from all prior year funding	2305	2106	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	515	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	500	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	500	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	1,000	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	1,000
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	300	769	769	734	759	759	759
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	1323	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	982	2788	2019	1765	1531	1272	1513	1754
Inventory Objective/Current Authorized Allowance	2392	1838	2272	2262	2252	2277	2277	2277
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 0	FY96: 0	FY96:					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings; Other Losses/Usage: New item installed in Torpedo Mounted Dispenser (TMD) FY96 and introduced to Fleet FY97.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Submarine Wire Coil	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	500	0	750	750	750	500	500
Unit Cost		\$2,000	\$2,044	\$2,087	\$2,131	\$2,175	\$2,221	\$2,268
Total Cost	0	\$1,000	\$0	\$1,565	\$1,598	\$1,632	\$1,111	\$1,134
Asset Dynamics								
Beginning Asset Position	4433	3610	3342	2280	1779	838	583	313
Deliveries from all prior year funding	0	872	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	500	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	750	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	750	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	750
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	823	1140	1062	1001	941	1005	1020	851
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	3610	3342	2280	1779	838	583	313	212
Inventory Objective/Current Authorized Allowance	3025	3203	3004	2947	2966	2876	2876	2876
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 823	FY96: 0	FY96:					
	FY95: 849	FY95: 0	FY95: 0					
	FY94: 916	FY94: 0	FY94: 0					
	FY93: 1030	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Heavyweight Torpedo Support Equipment LI# 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Torpedo Wire Coil	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	0	700	1,000	1,000	600	600	600
Unit Cost		\$2.000	\$2.042	\$2.085	\$2.129	\$2.173	\$2.219	\$2.268
Total Cost	0	\$0	\$1,429	\$2,085	\$2,129	\$1,304	\$1,331	\$1,361
Asset Dynamics								
Beginning Asset Position	5087	4264	3124	2062	1061	820	815	795
Deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	700	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	1,000	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	1,000	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	600
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	823	1140	1062	1001	941	1005	1020	851
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	4264	3124	2062	1061	820	815	795	544
Inventory Objective/Current Authorized Allowance	3025	3203	3004	2947	2966	2876	2876	2876
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY96: 823	FY96: 0	FY96: 0					
	FY95: 849	FY95: 0	FY95: 0					
	FY94: 916	FY94: 0	FY94: 0					
	FY93: 1030	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training Losses/Usage: Reflect Sponsor-directed firings.								

Exhibit P-20, Requirements Study			Approp Code/BA 1507/		Subhead C3F8		Date: September 1997			
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months				
Project Unit/Item F8001/MK50 MK32 Air Stabilizer			PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY			374	0	400	186	186	200	200	200
Unit Cost			\$2.051		\$1.123	\$1.148	\$1.173	\$1.199	\$1.225	\$1.252
Total Cost			\$767	\$0	\$449	\$213	\$218	\$240	\$245	\$250
Asset Dynamics										
Beginning Asset Position			30	30	0	188	102	159	159	159
Deliveries from all prior year funding			0	0	374	0	0	0	0	0
Spares deliveries from all prior year funding			0	157	0	100	0	0	0	0
Deliveries from FY 1997 funding			0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding			0	0	0	0	400	0	0	0
Deliveries from FY 1999 funding			0	0	0	0	0	186	0	0
Deliveries from FY 2000 funding			0	0	0	0	0	0	186	0
Deliveries from FY 2001 funding			0	0	0	0	0	0	0	200
Combat Losses/Usage			0	0	0	0	0	0	0	0
Training Losses/Usage			0	187	186	186	186	186	186	186
Test Losses/Usage			0	0	0	0	0	0	0	0
Other Losses/Usage			0	0	0	0	157	0	0	0
Disposals/Retirements/Attritions/etc.			0	0	0	0	0	0	0	0
End of Year Asset Position			30	0	188	102	159	159	159	173
Inventory Objective/Current Authorized Allowance			673	859	858	858	858	858	858	858
Example:										
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)						
	PY thru FY96: 0	PY thru FY96:	0	PY thru FY96:	0					
	FY95: 0	FY95:	0	FY95:	0					
	FY94: 0	FY94:	0	FY94:	0					
	FY93: 0	FY93:	0	FY93:	0					
TOTAL:										
REMARKS: Other Losses/Usage: Repaid assets to Replen Spares (FY00). Objective. MK32 Air Stabilizer expended during EXTORP fixed wing special firings and REXTORP fixed wing NCER firings.										

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 MK33 Air Stabilizer	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	0	350	218	145	145	145	145
Unit Cost			\$1.123	\$1.148	\$1.173	\$1.199	\$1.225	\$1.252
Total Cost	\$0	\$0	\$393	\$250	\$170	\$174	\$178	\$182
Asset Dynamics								
Beginning Asset Position	239	239	206	87	68	212	311	337
Deliveries from all prior year funding	0	0	0	0	0	0	0	0
Spares deliveries from all prior year funding	0	87	0	100	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	350	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	218	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	145	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	145
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	120	119	119	119	119	119	119
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	87	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	239	206	87	68	212	311	337	363
Inventory Objective/Current Authorized Allowance	539	658	744	744	744	657	657	657
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 0	PY thru FY96: 0	PY thru FY96: 0					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Other Losses/Usage: Repaid assets to Replen Spares (FY00). MK33 Air Stabilizer expended during EXTORP rotary wing special firings and REXTORP rotary wing NCER firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 MK33 Air Stabilizer	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	0	350	218	145	145	145	145
Unit Cost			\$1.123	\$1.148	\$1.173	\$1.199	\$1.225	\$1.252
Total Cost	\$0	\$0	\$393	\$250	\$170	\$174	\$178	\$182
Asset Dynamics								
Beginning Asset Position	239	239	206	87	68	212	311	337
Deliveries from all prior year funding	0	0	0	0	0	0	0	0
Spares deliveries from all prior year funding	0	87	0	100	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	350	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	218	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	145	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	145
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	120	119	119	119	119	119	119
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	87	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	239	206	87	68	212	311	337	363
Inventory Objective/Current Authorized Allowance	539	658	744	744	744	657	657	657
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 0	PY thru FY96: 0	PY thru FY96: 0					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Other Losses/Usage: Repaid assets to Replen Spares (FY00). MK33 Air Stabilizer expended during EXTORP rotary wing special firings and REXTORP rotary wing NCER firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 Tailnut	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	343	0	0	0	0	0	0	0
Unit Cost	\$0.072							
Total Cost	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Dynamics								
Beginning Asset Position	158	154	150	489	486	482	479	476
Deliveries from all prior year funding	0	0	343	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	4	4	4	3	3	3	3	3
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	1	1	1	1	1	1	1	1
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	154	150	489	486	482	479	476	473
Inventory Objective/Current Authorized Allowance	500	500	500	500	500	500	500	500
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 4	PY thru FY96: 1	PY thru FY96: 0					
	FY95: 0	FY95: 0	FY95: 0					
	FY94: 0	FY94: 0	FY94: 0					
	FY93: 0	FY93: 0	FY93: 0					
TOTAL:								
REMARKS: Training and Other Losses/Usage: Reflects 2% fall-out rate. MK50 Tailnut expended during Warshot tube launch for Special Firings. Inventory Objective adjusted to reflect MK50 inventory.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 Gas Injection Assembly	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	57	0	0	0	0	0	0	0
Unit Cost	\$0.841							
Total Cost	\$48	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Dynamics								
Beginning Asset Position	183	153	123	150	120	90	60	30
Deliveries from all prior year funding	0	0	57	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	0	0	0	0	0	0	0
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	30	30	30	30	30	30	30	30
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	153	123	150	120	90	60	30	0
Inventory Objective/Current Authorized Allowance	90	90	90	90	90	90	90	90
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)				
	PY thru FY96: 0	PY thru FY96: 30		PY thru FY96: 0				
	FY95: 0	FY95: 0		FY95: 0				
	FY94: 0	FY94: 0		FY94: 0				
	FY93: 0	FY93: 0		FY93: 0				
TOTAL:								
REMARKS: Replacements during overhaul; used for MK50 Special Firings. Other Losses/Usage: Maintenance turns at Keyport.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 Oxidant Shutdown Valve	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	44	0	0	0	0	0	0	0
Unit Cost	\$0.629							
Total Cost	\$28	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Dynamics								
Beginning Asset Position	711	681	651	665	635	605	575	545
Deliveries from all prior year funding	0	0	44	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	0	0	0	0	0	0	0
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	30	30	30	30	30	30	30	30
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	681	651	665	635	605	575	545	515
Inventory Objective/Current Authorized Allowance	90	90	90	90	90	90	90	90
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)				
	PY thru FY96: 0	PY thru FY96:	30	PY thru FY96:	0			
	FY95: 0	FY95:	0	FY95:	0			
	FY94: 0	FY94:	0	FY94:	0			
	FY93: 0	FY93:	0	FY93:	0			
TOTAL:								
REMARKS: Other Losses/Usage: Maintenance turns at Keyport (30). Expended during MK50 Special Firings.								

Exhibit P-20, Requirements Study			Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months			
Project Unit/Item F8001/MK50 Oxidant Stop Squib		PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY		43	0	0	0	0	0	0	0
Unit Cost		\$0.359							
Total Cost		\$15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Dynamics									
Beginning Asset Position		380	350	320	333	303	273	243	213
Deliveries from all prior year funding		0	0	43	0	0	0	0	0
Spares deliveries from all prior year funding		0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding		0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding		0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding		0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding		0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding		0	0	0	0	0	0	0	0
Combat Losses/Usage		0	0	0	0	0	0	0	0
Training Losses/Usage		0	0	0	0	0	0	0	0
Test Losses/Usage		0	0	0	0	0	0	0	0
Other Losses/Usage		30	30	30	30	30	30	30	30
Disposals/Retirements/Attritions/etc.		0	0	0	0	0	0	0	0
End of Year Asset Position		350	320	333	303	273	243	213	183
Inventory Objective/Current Authorized Allowance		90	90	90	90	90	90	90	90
Example:									
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)					
	PY thru FY96: 0	PY thru FY96: 30		PY thru FY96: 0					
	FY95: 0	FY95: 0		FY95: 0					
	FY94: 0	FY94: 0		FY94: 0					
	FY93: 0	FY93: 0		FY93: 0					
TOTAL:									
REMARKS: Other Losses/Usage: Maintenance turns at Keyport (30). Expended during MK50 Special Firings.									

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK50 Boiler Assembly	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	105	0	0	0	0	0	0	0
Unit Cost	\$25.000							
Total Cost	\$2,625	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Dynamics								
Beginning Asset Position	656	626	596	566	536	506	476	446
Deliveries from all prior year funding	0	0	105	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	0	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	0	0	0	0	0	0	0	0
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	30	30	135	30	30	30	30	30
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	626	596	566	536	506	476	446	416
Inventory Objective/Current Authorized Allowance	195	195	195	90	90	90	90	90
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)				
	PY thru FY96: 0	PY thru FY96: 30		PY thru FY96: 0				
	FY95: 0	FY95: 0		FY95: 0				
	FY94: 0	FY94: 0		FY94: 0				
	FY93: 0	FY93: 0		FY93: 0				
TOTAL:								
REMARKS: Other Losses/Usage: Maintenance turns at Keyport (30). FY98 increase of 105 reflects replacements of old boiler with new design; expended during MK50 Special Firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK89 Mod 1 Suspension Bands	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	0	2,200	1,900	1,900	1,900	1,900	1,900
Unit Cost			\$0.439	\$0.448	\$0.458	\$0.468	\$0.478	\$0.489
Total Cost	\$0	\$0	\$966	\$851	\$870	\$889	\$909	\$929
Asset Dynamics								
Beginning Asset Position	1597	1271	945	616	366	1579	2492	3405
Deliveries from all prior year funding	0	0	0	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	2,200	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	1,900	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	1,900	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	1,900
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	326	326	329	250	987	987	987	987
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	1271	945	616	366	1579	2492	3405	4318
Inventory Objective/Current Authorized Allowance	3781	3705	4366	5024	5761	5761	5761	5761
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 326	PY thru FY96:		PY thru FY96:	0			
	FY95: 0	FY95:		FY95:	0			
	FY94: 0	FY94:		FY94:	0			
	FY93: 0	FY93:		FY93:	0			
TOTAL:								
REMARKS: Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Suspension bands expend MK46/MK50 Warshot, EXTORP (rotary and fixed wing), and REXTORP (rotary and fixed wing) firings. Inventory Objective: FY96-99 using old bands for MK50 firings only; FY00-03 increase due to use of MOD 1 bands for all MK46 and MK50 firings.								

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997			
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months			
Project Unit/Item F8001/MK46 REXTORP Kit		PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY		0	0	150	405	405	404	404	404
Unit Cost				\$0.511	\$0.521	\$0.532	\$0.544	\$0.556	\$0.568
Total Cost		\$0	\$0	\$77	\$211	\$216	\$220	\$225	\$230
Asset Dynamics									
Beginning Asset Position		3340	2917	2283	1878	1473	1218	1219	1220
Deliveries from all prior year funding		0	0	0	0	0	0	0	0
Spares deliveries from all prior year funding		0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding		0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding		0	0	0	0	150	0	0	0
Deliveries from FY 1999 funding		0	0	0	0	0	405	0	0
Deliveries from FY 2000 funding		0	0	0	0	0	0	405	0
Deliveries from FY 2001 funding		0	0	0	0	0	0	0	404
Combat Losses/Usage		0	0	0	0	0	0	0	0
Training Losses/Usage		423	634	405	405	405	404	404	404
Test Losses/Usage		0	0	0	0	0	0	0	0
Other Losses/Usage		0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.		0	0	0	0	0	0	0	0
End of Year Asset Position		2917	2283	1878	1473	1218	1219	1220	1220
Inventory Objective/Current Authorized Allowance		1462	1444	1215	1214	1213	1212	1212	1212
Example:									
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)					
	PY thru FY96: 423	PY thru FY96:	0	PY thru FY96:	0				
	FY95: 1020	FY95:	0	FY95:	0				
	FY94: 1020	FY94:	0	FY94:	0				
	FY93: 0	FY93:	0	FY93:	0				
TOTAL:									
REMARKS:		Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. MK46 REXTORP Kit expended during tube, fixed wing, and rotary wing firings FY96-97; expended only during fixed wing firings FY98-03.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8100/Mk46 Pressure Cylinder (Short)	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	0	0	675	402	402	402	402	402
Unit Cost			\$0.256	\$0.261	\$0.267	\$0.273	\$0.279	\$0.285
Total Cost	\$0	\$0	\$173	\$105	\$107	\$110	\$112	\$114
Asset Dynamics								
Beginning Asset Position	2493	2133	1733	1331	929	1202	1202	1202
Deliveries from all prior year funding	0	0	0	0	0	0	0	0
Spares deliveries from all prior year funding	0	0	0	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	675	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	402	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	402	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	402
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	360	400	402	402	402	402	402	402
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	2133	1733	1331	929	1202	1202	1202	1202
Inventory Objective/Current Authorized Allowance	1162	1204	1206	1206	1206	1206	1206	1206
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 360	PY thru FY96:	PY thru FY96:					
	FY95: 727	FY95:	FY95:	0				
	FY94: 781	FY94:	FY94:	0				
	FY93: 0	FY93:	FY93:	0				
TOTAL:								
REMARKS: Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. MK46 Pressure Cylinder (Short) expended during EXTORP (tube, fixed wing, rotary wing) firings.								

Exhibit P-20, Requirements Study			Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months			
Project Unit/Item F8001/Mk46 Mod 5 Seawater Battery		PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY		460	0	1,800	402	402	402	402	402
Unit Cost		\$0.286		\$0.292	\$0.298	\$0.305	\$0.311	\$0.318	\$0.325
Total Cost		\$132	\$0	\$526	\$120	\$122	\$125	\$128	\$131
Asset Dynamics		0							
Beginning Asset Position		1146	786	609	667	265	1440	1440	1440
Deliveries from all prior year funding		0	0	460	0	0	0	0	0
Spares deliveries from all prior year funding		0	223	0	0	0	0	0	0
Deliveries from FY 1997 funding		0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding		0	0	0	0	1,800	0	0	0
Deliveries from FY 1999 funding		0	0	0	0	0	402	0	0
Deliveries from FY 2000 funding		0	0	0	0	0	0	402	0
Deliveries from FY 2001 funding		0	0	0	0	0	0	0	402
Combat Losses/Usage		0	0	0	0	0	0	0	0
Training Losses/Usage		360	400	402	402	402	402	402	402
Test Losses/Usage		0	0	0	0	0	0	0	0
Other Losses/Usage		0	0	0	0	223	0	0	0
Disposals/Retirements/Attritions/etc.		0	0	0	0	0	0	0	0
End of Year Asset Position		786	609	667	265	1440	1440	1440	1440
Inventory Objective/Current Authorized Allowance		1162	1204	1429	1429	1429	1429	1429	1429
Example:									
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)					
	PY thru	PY thru		PY thru					
	FY96: 360	FY96:	0	FY96:	0				
	FY95: 380	FY95:	0	FY95:	0				
	FY94: 490	FY94:	0	FY94:	0				
	FY93: 348	FY93:	0	FY93:	0				
TOTAL:									
REMARKS: Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Other Losses/Usage: Repaid assets to Replen Spares (FY00). MK46 Seawater Battery expended during EXTORP (tube, fixed wing, rotary wing) firings.									

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: September 1997		
P-1 Line Item Nomenclature Lightweight Torpedo Support Equipment LI # 330100		Admin Leadtime (after Oct 1): 7 months				Prod Leadtime: 17 months		
Project Unit/Item F8001/MK46 Lead Droppers	PY FY 1996	CY FY 1997	BY1 FY 1998	BY2 FY 1999	BY2+1 FY 2000	BY2+2 FY 2001	BY2+3 FY 2002	BY2+4 FY 2003
Buy Summary QTY	228	0	1,211	1,000	1,000	647	647	647
Unit Cost	\$0.367		\$0.411	\$0.420	\$0.429	\$0.439	\$0.448	\$0.458
Total Cost	\$84	\$0	\$498	\$420	\$429	\$284	\$290	\$296
Asset Dynamics								
Beginning Asset Position	906	551	267	1330	683	1247	1600	1953
SE deliveries from all prior year funding	0	0	228	0	0	0	0	0
Spares deliveries from all prior year funding	291	364	1,482	0	0	0	0	0
Deliveries from FY 1997 funding	0	0	0	0	0	0	0	0
Deliveries from FY 1998 funding	0	0	0	0	1,211	0	0	0
Deliveries from FY 1999 funding	0	0	0	0	0	1,000	0	0
Deliveries from FY 2000 funding	0	0	0	0	0	0	1,000	0
Deliveries from FY 2001 funding	0	0	0	0	0	0	0	647
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	646	648	647	647	647	647	647	647
Test Losses/Usage	0	0	0	0	0	0	0	0
Other Losses/Usage	0	0	0	0	0	0	0	0
Disposals/Retirements/Attritions/etc.	0	0	0	0	0	0	0	0
End of Year Asset Position	551	267	1330	683	1247	1600	1953	1953
Inventory Objective/Current Authorized Allowance	1941	1942	1941	1941	1941	1941	1941	1941
Example:								
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	PY thru FY96: 646	PY thru FY96:	PY thru FY96:	0				
	FY95: 409	FY95:	FY95:	0				
	FY94: 490	FY94:	FY94:	0				
	FY93: 370	FY93:	FY93:	0				
TOTAL:								
REMARKS: Training Losses/Usage: Item expended after each firing. Updated to reflect Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Lead droppers expended during MK46 EXTORP (tube, fixed wing, rotary wing) and REXTORP (fixed wing) firings.								

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BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: September 1997					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA 3 - Torpedoes and Related Equipment								P-1 ITEM NOMENCLATURE ASW Range Support/330200					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)				\$17.6	\$14.5	\$11.8	\$15.0	\$15.7	\$13.6	\$13.4	\$13.7		\$115.3
<p>The ASW Range support program provides training range equipment, weapon proofing range equipment, and Fleet support equipment for use on the Navy's underwater ranges. This equipment is used to instrument Fleet exercises and torpedo firings, ASW readiness assessment and ASW weapon production acceptance testing. The Weapon Fleet training ranges supported are Southern California Offshore Range (SCORE), Barking Sands Tactical Underwater Range/Barking Sands Underwater Range Extension (BARSTUR/BSURE), Atlantic Underwater Test and Evaluation Center (AUTEC) and Atlantic Fleet Weapons Training Facility (AFWTF). Test and Evaluation (T&E) ranges are Nanoose, Dabob Bay and Quinault</p> <p>F4001 - Pinger Exercise Components are placed in weapons and other underwater vehicles for tracking during training and T&E exercises, and to insure safe operation and movement of all craft and weapons on the ranges. In addition, pinger components are also procured to support the future Shallow Water Training Ranges at both coasts and Hawaii</p> <p>F4003 - Recovery Equipment is used on T&E ranges for recovering weapons on or buried in the sea floor. Approximately \$20 million of hardware is recovered each year using these devices.</p> <p>F4004 - The T&E Range Equipment line provides for improvement and modernization of the Underwater Weapons Evaluation Facility; range equipment for YTT (Yard Torpedo Tender) and test crafts; portable tracking range components used at remote sites for testing requirements in different sea-bottom, littoral and cold water environments; and other range systems in support of weapon T&E operations.</p> <p>F4005 - The ASW Target MK 30 Mod 1 provides essential fleet ASW training on the Navy's underwater tracking ranges. The MK 30 Mod 1 is currently used at the BARSTUR - Hawaii, AUTEC- Bahamas, AFWTF - St. Croix, Virgin Islands and SCORE. ASW range support funds are used to procure components for the MK 30 that are consumed/expended during fleet in-water runs. These funds are also used to replace obsolete components and improve maintenance and reliability of the targets.</p> <p>F4006 - The stationary target components include the MK 28 Targets, the MK 69 Target, and the Over-the-Side (OTS) Target. MK 28 Targets are used for conducting Service Weapons Test (SWT) on in-service and advanced warshot torpedoes. The SWT is the only test the Navy has to verify the explosive chain of torpedoes. Funding is used to procure target systems and components expended during SWT operations in addition to improvement and modernization projects. The MK 69 is a bottom mounted stationary target and Over-the-side (OTS) is a surface deployed target used to test various weapon attributes during T&E exercises. These targets are needed to fill specific technical requirements for the MK 48 ADCAP and MK 50 torpedoes. Funding is used to procure components that improve operability and maintenance of the target.</p> <p>Production Engineering funds support efforts performed by a field activity or contractor during the production phase of these projects.</p>													

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WEAPONS SYSTEM COST ANALYSIS								Weapon System				DATE:		
P-5								September 1997						
APPROPRIATION/BUDGET ACTIVITY						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD							
Weapons Procurement, Navy														
BA 3 - Torpedoes and Related Equipment							ASW Range Support (83F4)							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F4001	<u>N85</u> Pinger Exercise Components				142			132			-			-
	<u>N86</u>													
F4001	Pinger Exercise Components				306			103			265			399
F4002	Proofing Pinger Components				519			206			-			-
F4003	Recovery Equipment				376			105			83			142
F4004	Test & Evaluation Range Equipment				747			292			232			383
F4005-30	MK30 Components				1,626			-			-			-
F4005-R	Stationary Target Components				664			187			-			-
F4006	Stationary Target Components				-			-			120			183
F4830	Production Engineering In-House				972			84			66			77
F4840	Quality Assurance - In-House				118			46			-			-
F4850	Product Improvement				511			94			52			59
F4860	Acceptance Test & Evaluation In-House				149			62			-			-
F4900	Production Engineering - Contractors				274			54			46			51
	<u>N87</u>													
F4001	Pinger Exercise Components				417			451			1,448			1,756
F4002	Proofing Pinger Components				706			901			-			-
F4003	Recovery Equipment				511			460			453			641
F4004	Test & Evaluation Range Equipment				1,017			1,278			1,267			1,759
F4005-30	MK30 Components				2,215			-			-			-
F4005-R	Stationary Target Components				904			820			-			-
F4006	Stationary Target Components				-			-			656			820
F4830	Production Engineering In-House				1,323			370			361			345
F4840	Quality Assurance - In-House				161			202			-			-
F4850	Product Improvement				695			413			284			267
F4860	Acceptance Test & Evaluation In-House				203			270			-			-
F4900	Production Engineering - Contractors				373			236			250			232
	<u>N88</u>													
F4001	Pinger Exercise Components				531			517			446			557
F4005-30	MK30 Components				1,594			-			-			-
F4830	Production Engineering In-House				133			78			68			68
F4840	Quality Assurance - In-House				54			52			-			-
F4850	Product Improvement				239			104			69			53
F4860	Acceptance Test & Evaluation In-House				26			26			-			-
F4900	Production Engineering - Contractors				79			60			54			67
SUBTOTAL					17,585			7,603			6,220			7,859

CLASSIFICATION:

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WEAPONS SYSTEM COST ANALYSIS P-5							Weapon System			DATE: September 1997				
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA 3 - Torpedoes and Related Equipment						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD ASW Range Support (83F4)							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1996			FY 1997			FY 1998			FY 1999		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F4001	<u>N85</u> Pinger Exercise Components		Please note: MK-30 Targets Program figures for FY 96 are combined with ASW Range Program on previous page.					-			-			-
	<u>N86</u>													
F4001	Pinger Exercise Components				-			-			-			-
F4002	Proofing Pinger Components				-			-			-			-
F4003	Recovery Equipment				-			-			-			-
F4004	Test & Evaluation Range Equipment				-			-			-			-
F4005-30	MK30 Components							765			415			516
F4005-R	Stationary Target Components				-			-			-			-
F4006	Stationary Target Components				-			-			-			-
F4830	Production Engineering In-House							56			85			136
F4840	Quality Assurance - In-House				-			-			-			-
F4850	Product Improvement							117			114			241
F4860	Acceptance Test & Evaluation In-House				-			-			-			-
F4900	Production Engineering - Contractors							15			10			10
	<u>N87</u>													
F4001	Pinger Exercise Components				-			-			-			-
F4002	Proofing Pinger Components				-			-			-			-
F4003	Recovery Equipment				-			-			-			-
F4004	Test & Evaluation Range Equipment				-			-			-			-
F4005-30	MK30 Components							3,353			2,261			2,515
F4005-R	Stationary Target Components				-			-			-			-
F4006	Stationary Target Components				-			-			-			-
F4830	Production Engineering In-House							243			468			610
F4840	Quality Assurance - In-House				-			-			-			-
F4850	Product Improvement							514			626			1,083
F4860	Acceptance Test & Evaluation In-House				-			-			-			-
F4900	Production Engineering - Contractors							67			57			46
	<u>N88</u>													
F4001	Pinger Exercise Components				-			-			-			-
F4005-30	MK30 Components							1,551			1,338			1,606
F4830	Production Engineering In-House							51			88			120
F4840	Quality Assurance - In-House				-			-			-			-
F4850	Product Improvement							129			153			215
F4860	Acceptance Test & Evaluation In-House				-			-			-			-
F4900	Production Engineering - Contractors							17			12			13
SUBTOTAL					-			6,878			5,627			7,111
TOTAL					17,585			14,481			11,847			14,970

CLASSIFICATION:

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BUDGET ITEM JUSTIFICATION SHEET P-40					DATE: September 1997			
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA - 3 Torpedoes and Related Equipment					P-1 ITEM NOMENCLATURE BLI 2410 FIRST DESTINATION TRANSPORTATION (FDT) / 93TA			
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY								
COST (In Millions)	\$3.9	\$2.6	\$2.0	\$2.0	\$2.0	\$2.1	\$2.1	\$2.2
<p>First Destination Transportation (FDT) provides for the movement of newly procured equipment and material from the contractor's plant to the initial point of receipt for subsequent shipment to its destination.</p>								

P-1 SHOPPING LIST

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WEAPONS SYSTEM COST ANALYSIS								DATE:		
P-5								September 1997		
APPROPRIATION/BUDGET ACTIVITY				P-1 ITEM NOMENCLATURE/SUBHEAD						
Weapons Procurement, Navy				First Destination Transportation (FDT) / 93TA						
BA 3 Torpedoes and Related Equipment										
COST CODE	ELEMENT OF COST	IDENT CODE	TOTAL COST IN THOUSANDS OF DOLLARS							
			FY 1996		FY 1997		FY 1998		FY 1999	
			QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
TA001	First Destination Transportation			3,918		2,566		2,008		2,028
				3,918		2,566		2,008		2,028

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P-1 SHOPPING LIST
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